

Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims:

Listing of Claims:

1-19. (Canceled)

20. (Previously presented) A repeater unit comprising:

at least one receiver module responsive to an infrared signal; and

a controller unit adapted to determine whether a signal based on the infrared signal corresponds to a remote control signal,

wherein the at least one receiver module comprises a first receiver module, tuned to a first carrier frequency, that receives the infrared signal and is configured to generate a first signal based on the infrared signal, and a second receiver module, tuned to a second carrier frequency, that receives the infrared signal and is configured to generate a second signal based on the infrared input signal,

wherein the controller unit:

determines if the first signal based on the infrared signal is a valid remote control signal by determining if the first signal corresponds to one of the remote control signals, or

determines if the second signal based on the infrared signal is a valid remote control signal by determining if the second signal corresponds to one of the remote control signals; and

generates a signal that corresponds to one of the remote control signals, if the controller unit determines that either the first signal or the second signal is a valid remote control signal, by adding either a fixed carrier frequency, or a multi frequency signal to either the first signal or the second signal,

wherein the controller unit determines if the first signal corresponds to one of the remote control signals by measuring a pulse width of the first signal, and determining if the pulse width of the first signal is greater or less than a predetermined duration that corresponds to a duration of a carrier of one of the remote control signals,

wherein the controller determines that the second signal corresponds to one of the remote control signals by measuring a pulse width of the second signal, and determining if the pulse width of the second signal is greater or less than a predetermined duration that corresponds to a duration of a carrier of one of the remote control signals, and

wherein the controller unit determines that either the first signal or the second signal corresponds to one of the remote control signals, even though the pulse width of the first output signal or the second signal is less than the predetermined duration, if the first signal and the second signal are simultaneously active.

21-29. (Canceled)

30. (New) The repeater unit of claim 20, wherein the infrared signal comprises at least one of a noise input and the remote control signal.

31. (New) The repeater unit of claim 30, wherein the controller unit is adapted to distinguish between the noise input and the remote control signal.

32. (New) The repeater unit of claim 20, wherein the first and second receiver modules comprise wideband receiver modules.

33. (New) The repeater unit of claim 20, wherein the first and second receiver modules comprise narrowband receiver modules.

34. (New) The repeater unit of claim 20, further comprising an amplifier that amplifies the signal generated by the controller unit.

35. (New) The repeater unit of claim 20, wherein the infrared signal is from a control device.

36. (New) The repeater unit of claim 35, wherein the control device is a remote control device.

37. (New) The repeater unit of claim 20, wherein the first carrier frequency is centered about 38 kHz.

38. (New) The repeater unit of claim 37, wherein the second carrier frequency is centered about 56 kHz.

39. (New) The repeater unit of claim 20, further comprising a third receiver module tuned to a third carrier frequency that receives the infrared signal and is configured to generate a third signal based on the infrared input signal.

40. (New) The repeater unit of claim 39, wherein the third carrier frequency is centered about 455 kHz.

41. (New) An infrared repeater system comprising the repeater unit of claim 20, and further comprising:

- a remote control device that generates the infrared signal;
- an amplifier that amplifies the signal generated by the controller unit; and
- at least one component responsive to the amplified output signal from the amplifier.